

REPORT ON BOILERS.

No. 5220

Date of writing Report 19th April 1948 When handed in at Local Office 19th April 1948 Port of Barcelona

No. in Survey held at Valencia Date, First Survey 8th March 1947 Last Survey 20th May 1947

Reg. No. 31798 on the single screw steamer "RIA DE EL PEROL" (Number of Visits 19) Gross Tons 2241.98 Net Tons 1308.25

Master Matias Morales Built at Stettin By whom built Otseewerft Yard No. - When built 1921

Engines made at Berlin - Tegel By whom made A. Borsing G.m.b.H. Engine No. - When made 1921

Boilers made at Berlin - Tegel By whom made A. Borsing G.m.b.H. Boiler No. 25093 When made 1921

Nominal Horse Power MN 168 Owners Siderurgica Asturiana S.A. Port belonging to Cadiz

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel - (Letter for Record 7)

Total Heating Surface of Boilers 380 m² = 2 x 190 m² Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers two Scotch type Working Pressure 14 kg/cm²

Tested by hydraulic pressure to 15 kgs Date of test 1-4-47 No. of Certificate - Can each boiler be worked separately yes

Area of Firegrate in each Boiler 5.7 m² No. and Description of safety valves to each boiler 2 spring loaded. Valves dia. 90 mm

Area of each set of valves per boiler { per Rule 7688 mm² as fitted 12723 mm² } Pressure to which they are adjusted 14 kgs Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler none

Smallest distance between boilers or uptakes and bunkers or woodwork 210 mm Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 400 mm Is the bottom of the boiler insulated no

Largest internal dia. of boilers 4100 mm Length 3370 mm Shell plates: Material S.M. steel Tensile strength 46/54 kgs

Thickness 28.5 mm Are the shell plates welded or flanged no Description of riveting: circ. seams inter. none

long. seams double buttstrap Diameter of rivet holes in { circ. seams 33 mm long. seams 33 mm } Pitch of rivets { 105 mm } 420 outermost row

Percentage of strength of circ. end seams { plate 68.5 mm rivets 44.8 mm } Percentage of strength of circ. intermediate seam { plate 92.1 mm rivets 115.6 mm combined 94.8 mm }

Percentage of strength of longitudinal joint { plate 115.6 mm rivets 94.8 mm } Working pressure of shell by Rules 14.47 kg/cm²

Thickness of butt straps { outer 23 mm inner 23 mm } No. and Description of Furnaces in each Boiler 3 corrugated Morison type

Material S.M. steel Tensile strength 34/41 kg/mm² Smallest outside diameter 926 mm

Length of plain part { top - bottom - } Thickness of plates { crown 13 mm bottom 13 mm } Description of longitudinal joint inter. none

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 14.2 kgs

End plates in steam space: Material S.M. steel Tensile strength 34/41 kg Thickness 28.5 mm Pitch of stays 390x360 mm

How are stays secured by nuts and washers inside and outside Working pressure by Rules 19 kgs

Tube plates: Material { front S.M. steel back S.M. steel } Tensile strength { 34/41 kgs } Thickness { 25.5 mm } 23 mm

Mean pitch of stay tubes in nests 220 mm Pitch across wide water spaces 363 mm Working pressure { front 15.65 kgs back 19.71 kgs }

Girders to combustion chamber tops: Material S.M. steel Tensile strength 46/54 kgs Depth and thickness of girder

at centre 230 - 2 x 18 mm Length as per Rule 700 mm Distance apart 210 mm No. and pitch of stays

in each 3 - 160 mm Working pressure by Rules 15.4 kgs Combustion chamber plates: Material S.M. steel

Tensile strength 34/41 kgs Thickness: Sides 16.5 mm Back 16.5 mm Top 16.5 mm Bottom C. furn. 18 mm

Pitch of stays to ditto: Sides 195x140 mm Back 190x155 mm Top 210x160 mm Are stays fitted with nuts or riveted over nuts & riveted

Working pressure by Rules 20.5 kgs Front plate at bottom: Material S.M. steel Tensile strength 34/41 kgs

Thickness 25.5 mm Lower back plate: Material S.M. steel Tensile strength 34/41 kgs Thickness 24 mm

Pitch of stays at wide water space 390 x 195 mm Are stays fitted with nuts or riveted over nuts

Working Pressure 22 kgs Main stays: Material S.M. steel Tensile strength 46/54 kgs

Diameter { At body of stay, 80 - 85 & 70 or 88 - 80 & 75 } No. of threads per inch 10 Area supported by each stay 390x360 & 390x420

Working pressure by Rules 22.39 kgs Screw stays: Material S.M. steel Tensile strength 46/54 kgs

Diameter { At turned off part, 34 mm or 38 mm } No. of threads per inch 11 Area supported by each stay 190 x 155 mm

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Working pressure by Rules 19.1 kg Are the stays drilled at the outer ends on Margin stays: Diameter 40 - 46 - 52
 No. of threads per inch 11 Area supported by each stay 190 x 155 mm Working pressure by Rules 27.6 kgs
 Tubes: Material S.M. steel External diameter 83 mm Thickness 3.5 mm No. of threads per inch 10
 Pitch of tubes 110 mm Working pressure by Rules 12 kgs Manhole compensation: Size of opening in
 shell plate 540 x 440 mm Section of compensating ring 21660 mm² No. of rivets and diameter of rivet holes 42 - 33 mm dia.
 Outer row rivet pitch at ends 185 mm Depth of flange if manhole flanged 110 mm Steam Dome: Material none
 Tensile strength 46/54 kgs Thickness of shell 3.5 mm Description of longitudinal joint butt
 Diameter of rivet holes 33 mm Pitch of rivets 110 mm Percentage of strength of joint 100%
 Internal diameter 76 mm Working pressure by Rules 12 kgs Thickness of crown 3.5 mm No. and diameter of
 stays 12 Inner radius of crown 110 mm Working pressure by Rules 12 kgs
 How connected to shell by stays Size of doubling plate under dome 540 x 440 mm Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell 33 mm

Type of Superheater none Manufacturers of none
 Number of elements 1 Material of tubes S.M. steel Internal diameter and thickness of tubes 83 mm x 3.5 mm
 Material of headers S.M. steel Tensile strength 46/54 kgs Thickness 3.5 mm Can the superheater be shut off and
 the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
 Area of each safety valve 580 mm² Are the safety valves fitted with easing gear yes Working pressure 19.1 kgs
 Rules Scott's Pressure to which the safety valves are adjusted 19.1 kgs Hydraulic test pressure 27.6 kgs
 tubes yes and after assembly in place yes Are drain cocks or valves fitted yes
 to free the superheater from water where necessary yes Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes
 The foregoing is a correct description, yes Manufacturer none

Dates During progress of work in shops 1947-1948 Are the approved plans of boiler and superheater forwarded herewith 16-6-47
 of Survey March 8, 27, 29, April 10, 1947 (If not state date of approval)
 while building During erection on board vessel - 11, 12, 14, 15, 17, 18, 19, 21, May 1947 Total No. of visits 19

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. none

GENERAL REMARKS (State quality of workmanship, opinions as to class, etc.)

These boilers have not been constructed under Special Survey but they complied with the requirements of the Rules for vessel not built under Special Survey and approved plans.

Please see Secretary's letter dated 23-6-47.

Material and workmanship are good.

Boilers have been specially examined and found satisfactory and in my opinion they are entitled to be classed in this Society with the notation S.B. 5.4.7.

How are stays secured by nuts and washers inside and outside
 Tube plates: Material S.M. steel Tensile strength 34/41 kgs Thickness 3.5 mm
 Pitch of stays to tube plates 110 mm Pitch across side water spaces 383 mm Working pressure 19.1 kgs
 at centre 300 - 3 x 18 mm Length as per Rule 700 mm Distance apart 310 mm
 in each 3 - 180 mm Working pressure by Rules 12.4 kgs Combustion chamber plates: Material S.M. steel
 Tensile strength 34/41 kgs Thickness 3.5 mm Stays 18.5 mm Top 18.5 mm Bottom 18 mm C.L. 18 mm

Survey Fee £4.41 When applied for £4.41 Fees charged as per S.S. report £4.41 Travelling Expenses (if any) £4.41

Assigned subject

Committee's Minute 10

Assigned subject

